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Cantaloupes
JUN 17 1938

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL ADJUSTMENT ADMINISTRATION
DIVISION OF MARKETING AND MARKETING AGREEMENTS



ECONOMIC STATEMENT FOR CANTALOUPE AND OTHER MELONS
OF IMPERIAL COUNTY, CALIFORNIA, AND
YUMA COUNTY, ARIZONA

Prepared by E. Wayles Browne, Jr., Associate
Agricultural Economist, for the purpose of
assisting in the consideration of a proposed
marketing agreement for melons shipped from the
areas stated above.

General Crops Section
Economic Analysis Unit

April, 1938



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PRELIMINARY ECONOMIC STATEMENT RELATING TO CANTALOUPE

PRODUCED IN IMPERIAL COUNTY, CALIFORNIA,

AND YUMA COUNTY, ARIZONA

Summary and Conclusions

1. Cantaloupes and related muskmelons are shipped in large volume from Imperial County, California, and Yuma County, Arizona, during the same period in June and July. Shipment regulations in these months should apply to both counties.
2. Cantaloupes and related melons produced in these two counties in 1937 were shipped throughout the United States and to Canada. Over 98 per cent of the carlot shipments originating in the area were billed outside of California and Arizona.
3. No official statistics are available with which to compute purchasing power in relation to the pre-war base period, 1910-1914. In comparison with the post-war base period, 1919-1929, prices received by growers have been below parity with the prices paid by farmers in each of the past eight seasons. Prices to growers in 1938 will be below parity if they do not average approximately \$1.43 per standard crate for the season.
4. Newly developed disease-resistant strains of cantaloupes have a tendency toward producing an unusually high proportion of large melons.
5. Crates of large or small melons commonly sell at discounts in terminal markets. Restricting the shipment of undesirable sizes could be expected to increase prices and returns to growers.
6. Under 1938 demand conditions, net returns to growers for melons on the vine can be increased by limiting the quantity harvested and shipped in interstate commerce.

7. The size distribution of cantaloupes shipped from Imperial Valley, 1937, were as follows: Jumbo 27's, 19 per cent; Jumbo 36's, 45 per cent; Jumbo 45's, 26 per cent; Standard crates, 5 per cent; Pony crates, 3 per cent; Flats, 1 per cent; and Irregular crates, 1 per cent.

8. A list is attached to this statement giving additional sources of detailed data relating to cantaloupes and related melons grown in Imperial and Yuma Counties.

PRELIMINARY ECONOMIC STATEMENT RELATING TO CANTALOUPE

PRODUCED IN IMPERIAL COUNTY, CALIFORNIA

AND YUMA COUNTY, ARIZONA

Introduction

Cantaloupes and other related melons of the muskmelon group, Honey Ball, Honey Dew, Casaba, and Persian melons (not including watermelons) have been grown on a commercial scale in the Imperial Valley section of Imperial County, California, for some thirty years or more. Beginning in 1918, the United States Department of Agriculture has reported annually on the acreage, yield, production, price received by growers, and total value of the crop in the Imperial Valley and in Arizona. Carlot shipments of muskmelons have been reported for Arizona for the same period, and for the Valley since 1922. Prior to 1922, California shipments were not segregated by shipping points. Tables I and II show these data for the Imperial Valley and for Arizona from 1918 to 1937, with present indications of 1938 acreage in the Valley. Production and price data for Yuma County, Arizona, are not shown separately, the Arizona data being reported as totals and averages for Yuma, Maricopa, and Pinal Counties combined. It is probable, however, that on the average, year to year changes from Yuma County vary directly with changes for the entire state, and therefore conclusions drawn from the state reports will be valid for Yuma County.

Table III, specially prepared for the Agricultural Adjustment Administration by the California Cooperative Crop Reporting Service, shows acreage, yield, and production of cantaloupes alone produced in the Imperial Valley from 1928 to 1937.

Shipping Season

Imperial County supplies the earliest shipment of melons in the United

Table I

Cantaloupes and Related Melons Produced in Imperial Valley, California
1918 - 1938

Acreage, Yield, Production, Farm Price, Cash Income, and Carlot Shipments

Year	Acreage	Yield	Production	Season Av. Farm Price	Cash Income	Carlot Shipments
	1	2	3	4	5	6
	<u>acres</u>	<u>crates/1</u>	<u>thous.</u> <u>crates/1</u>	<u>dollars</u> <u>per crate</u>	<u>thous.</u> <u>dollars</u>	<u>cars</u>
1918	10,900	200	2,180	2.88	6,278	792/2
1919	14,000	209	2,926	2.17	6,349	12,010/2
1920	21,370	182	3,899	1.83	7,117	13,251/2
1921	21,350	173	3,694	1.63	6,021	13,166/2
1922	31,330	140	4,386	3.61	15,833	12,243
1923	26,100	183	4,776	2.26	10,794	12,992
1924	31,000	190	5,890	1.53	9,012	15,758
1925	27,560	180	4,961	2.07	10,269	13,410
1926	35,300	143	5,048	1.29	6,512	11,678
1927	37,920	159	6,029	1.49	8,983	15,439
1928	33,460	186	6,224	1.60	9,958	14,072
1929	38,360	175	6,713	1.63	10,942	14,391
1930	50,900	113	5,752	1.32	7,593	11,151
1931	51,640	152	7,849	1.14	8,948	12,986
1932	45,750	140	6,405/3	1.15	5,419	7,592
1933	35,540	114	4,052/3	1.16	4,286	6,311
1934	27,900	160	4,464	1.40	6,250	6,553
1935	28,650	127	3,639	1.20	4,367	4,999
1936	24,150	155	3,743	1.40	5,240	5,179
1937	29,890	180	5,380	1.30	6,994	8,301
1938	27,000/4	/5	/5	/5	/5	/5

/1. Standard crates 12x12x22-1/8 inches, containing 45 melons.

/2. California State total; shipments not segregated by districts prior to 1922.

/3. Includes quantities not harvested: 1932, 1,693,000 crates; 1933, 357,000 crates.

/4. Preliminary. /5. Not yet available.

Source of data: U. S. Dept. Agr., Bur. Agr. Econ.

Cols. 1-5 incl., Crop Reporting Board, Commercial Truck Crops for Shipment - Cantaloupes (Market)

1918-1927, September 29, 1931

1928-1935, TC-36: 1219, December 18, 1936.

1936-1937, TC-37: 1218, December 17, 1937.

1938, TC-38: 407, April 13, 1938.

Col. 6, Div. Fruits & Vegetables, Carlot Shipments of Fruits and Vegetables, by Commodities, States, and Months, annual summaries.

Table II

Cantaloupes and Related Melons Produced in Arizona
1918 - 1938

Acreage, Yield, Production, Farm Price, Cash Income, and Carlot Shipments

Year	Acreage	Yield	Production	Season Av. : Farm Price	Cash : Income	Carlot : Shipments
	1	2	3	4	5	6
	acres	crates/1	thous. crates/1	dollars per crate	thous. dollars	cars
1918	2,560	180	461	1.85	853	1,169
1919	4,600	160	736	1.75	1,288	1,832
1920	2,740	170	466	1.75	816	1,159
1921	3,880	172	667	1.25	834	1,504
1922	2,700	180	486	1.35	656	1,558
1923	2,000	225	450	1.00	450	1,208
1924	4,000	200	800	1.02	816	1,864
1925	6,000	225	1,350	1.38	1,863	3,057
1926	7,000	200	1,400	1.32	1,848	3,146
1927	10,000	190	1,900	1.46	2,774	4,640
1928	11,000	180	1,980	1.34	2,653	5,224
1929	11,500	176	2,024	1.25	2,530	5,163
1930	15,700	133	2,088	.90	1,879	5,436
1931	13,800	125	1,725	.85	1,465	4,461
1932	12,500	120	1,500/2	.40	456	3,020
1933	8,100	140	1,134/2	.40	288	1,922
1934	5,700	150	855	1.30	1,112	2,398
1935	10,000	140	1,400/2	1.10	1,155	2,931
1936	11,500	140	1,610/2	1.15	1,380	3,273
1937	9,430	120	1,132	1.25	1,415	2,840
1938	/3	/4	/4	/4	/4	/4

/1. Standard crates, 12x12x22-1/8 inches, containing 45 melons.

/2. Includes quantities not harvested: 360,000 crates in 1932, 414,000 crates in 1933, and 350,000 crates in 1935, and 410,000 crates in 1936.

/3. Report due May 12, 1938. /4. Not yet available.

Source of data: U. S. Dept. Agr., Bur. Agr. Econ.

Cols. 1-5 incl., Crop Reporting Board, Commercial Truck Crops for Shipment - Cantaloupes (Market)

1918-1927, September 29, 1931.

1928-1935, TC-36: 1219, December 18, 1936.

1936-1937, TC-37: 1218, December 17, 1937.

Col. 6, Div. Fruits & Vegetables, Carlot Shipments of Fruits and Vegetables by Commodities, States, and Months, annual summaries.

Table III

Acreage, Yield, and Production of Imperial Valley Cantaloupes

1928 - 1937

(Exclusive of Honeydews, Honeyballs, and Miscellaneous Melons)

Year	Acreage	Yield	Production
	1	2	3
	acres	crates per acre	1,000 crates
1928	25,313	191	4,836
1929	28,638	190	5,425
1930	36,965	106	3,918
1931	35,738	148	5,289
1932	30,913	130	4,019
		(Harvested)	3,179
1933	22,702	108	2,452
1934	21,517	132	2,849
1935	19,128	115	2,200
1936	15,551	148	2,303
1937	20,397	175	3,569

1930 Mildew particularly bad.
 1931 Mildew early, but late crop good.
 1932 Prorate in effect.
 1933 Mildew particularly bad.
 1934 Mildew bad on Hale's Best; late plantings good.
 1935 Mildew bad on Hale's Best; about 1/2 acreage experimental resistant strains.
 1936 First year of 45 Resistant melon; no mildew.
 1937 Second year of 45 Resistant melon; sizes too large.

Source of data: Prepared for Agricultural Adjustment Administration by California Cooperative Crop Reporting Service, Sacramento, California, April 14, 1938.

States, normally beginning in the latter part of April or in early May. Arizona shipments usually begin three to four weeks later than Imperial. Both areas ship heavily in June, and shipments rarely extend in significant volume beyond July 31. The seasonal peaks of the two areas do not coincide, but the United States total peak shipments occur while both are shipping heavily. Tables IV and V show daily shipments in the 1936 and 1937 seasons by areas. Peak days are marked by asterisks and indicate the importance of the Valley and Arizona in comparison with shipments from other areas. Yuma County shipments are heaviest in June, as is the case with Imperial County, and the two areas are therefore properly to be grouped together in any attempt to regulate shipments of cantaloupes. Table VI shows annual shipments of cantaloupes and related melons, with Imperial County and Arizona in per cent of the total for the United States.

Interstate Commerce

Cantaloupes and related melons produced in Imperial County and Arizona are distributed to all parts of the United States and to Canada. In 1937, shipments from the Imperial Valley, (through July 10) were billed to 45 states, the District of Columbia, and seven provinces in Canada. Shipments from Arizona points (through July 20) were billed to 30 states, the District of Columbia, and four Canadian provinces.

Of the 13,474 cars shipped from the two areas during the period for which destination records are available, only 254 cars, or 2 per cent, were billed to points within the states of Arizona and California. The balance, 13,220 cars, or 98 per cent, entered interstate and foreign commerce.

Table IV

Daily Carlot Shipments of Cantaloupes from Imperial County,
California, Arizona, Other California, Other States,
and United States Total, April 18 to July 31, 1936
(Not Including Related Melons)

Date 1936	Imperial County California	Arizona /1	Other California	Other States	United States Total	Cumulated U. S. Total
	1	2	3	4	5	6
	<u>cars</u>	<u>cars</u>	<u>cars</u>	<u>cars</u>	<u>cars</u>	<u>cars</u>
April 18	1	--	--	--	1	
Total	1	--	--	--	1	1
April 19	--	--	--	--	--	
20	2	--	--	--	2	
21	1	--	--	--	1	
22	2	--	--	--	2	
23	3	--	--	--	3	
24	2	--	--	--	2	
25	4	--	--	--	4	
Total	14	--	--	--	14	15
April 26	6	--	--	--	6	
27	6	--	--	--	6	
28	10	--	--	--	10	
29	11	--	--	--	11	
30	6	--	--	--	6	
May 1	8	--	--	--	8	
2	13	--	--	--	13	
Total	60	--	--	--	60	75
May 3	13	--	--	--	13	
4	21	--	--	--	21	
5	21	--	--	--	21	
6	24	--	--	--	24	
7	23	--	--	--	23	
8	24	--	--	--	24	
9	23	--	--	--	23	
Total	149	--	--	--	149	224
May 10	25	--	--	--	25	
11	27	--	--	--	27	
12	29	--	--	--	29	
13	42	--	--	--	42	
14	54	--	--	--	54	
15	69	--	--	--	69	
16	77	--	--	--	77	
Total	323	--	--	--	323	547

(Continued)

Table IV

Daily Carlot Shipments of Cantaloupes from Imperial County,
California, Arizona, Other California, Other States,
and United States Total, April 18 to July 31, 1936
(Not Including Related Melons)

Date 1936	Imperial County California	Arizona /1	Other California	Other States	United States Total	Cumulated U. S. Total
	1 cars	2 cars	3 cars	4 cars	5 cars	6 cars
May 17	63	--	--	--	63	
18	73	1	--	--	74	
19	70	1	--	--	71	
20	64	1	--	--	65	
21	59	1	--	1	61	
22	63	1	--	--	64	
23	67	1	--	--	68	
Total	459	6	--	1	466	1,013
May 24	59	1	--	--	60	
25	79	2	--	2	83	
26	90	1	--	1	92	
27	94	5	--	5	104	
28	91	3	--	4	98	
29	107	9	--	9	125	
30	88	10	--	13	111	
Total	608	31	--	34	673	1,686
May 31	79	10	--	10	99	
June 1	79	14	--	13	106	
2	95	12	--	14	121	
3	88	22	--	6	116	
4	90	21	--	7	118	
5	97	26	--	3	126	
6	138	40	1	1	180	
Total	666	145	1	54	866	2,552
June 7	132	31	--	--	163	
8	162	54	1	1	218	
9	164*	58	1	1	224	
10	131	40	--	1	172	
11	132	45	2	--	179	
12	122	28	1	1	152	
13	130	23	1	1	155	
Total	973	279	6	5	1,263	3,815

(Continued)

Table IV

Daily Carlot Shipments of Cantaloupes from Imperial County,
California, Arizona, Other California, Other States,
and United States Total, April 18 to July 31, 1936
(Not Including Related Melons)

Date 1936	Imperial County California	Arizona /1	Other California	Other States	United States Total	Cumulated U. S. Total
	1	2	3	4	5	6
	<u>cars</u>	<u>cars</u>	<u>cars</u>	<u>cars</u>	<u>cars</u>	<u>cars</u>
June 14	128	29	1	--	158	
15	124	35	1	--	160	
16	128	40	1	1	170	
17	115	36	1	1	153	
18	121	42	2	1	166	
19	140	50	3	7	200	
20	132	60	2	7	201	
Total	888	292	11	17	1,208	5,023
June 21	162	62	5	1	230	
22	142	82	6	10	240	
23	145	95	12	11	263	
24	110	94	13	15	232	
25	90	93	24	12	219	
26	88	129	32	8	257	
27	67	156	39	7	269*	
Total	804	711	131	64	1,710	6,733
June 28	54	155	26	4	239	
29	34	185	20	13	252	
30	31	189	23	17	260	
July 1	20	200*	21	9	250	
2	28	159	24	22	233	
3	19	122	22	30	193	
4	10	52	31	14	107	
Total	196	1,062	167	109	1,534	8,267
July 5	9	89	26	1	125	
6	8	97	26	9	140	
7	6	68	23	12	109	
8	2	62	19	15	98	
9	3	54	19	25	101	
10	1	46	19	24	90	
11	2	56	17	36	111	
Total	31	472	149	122	774	9,041

(Continued)

Table IV

Daily Carlot Shipments of Cantaloupes from Imperial County,
California, Arizona, Other California, Other States,
and United States Total, April 18 to July 31, 1936
(Not Including Related Melons)

Date 1936	Imperial County California	Arizona <u>/1</u>	Other California	Other States	United States Total	Cumulated U. S. Total
	1	2	3	4	5	6
	<u>cars</u>	<u>cars</u>	<u>cars</u>	<u>cars</u>	<u>cars</u>	<u>cars</u>
July 12	1	41	21	14	77	
13	2	48	31	30	111	
14	1	58	33	50	142	
15	--	38	36	49	123	
16	1	21	35	57*	114	
17	--	18	43*	57*	118	
18	1	14	37	53	105	
Total	6	238	236	310	790	9,831
July 19	--	7	36	45	88	
20	--	9	33	32	74	
21	1	7	28	40	76	
22	--	6	24	36	66	
23	--	3	24	39	66	
24	--	3	26	38	67	
25	--	--	24	33	57	
Total	1	35	195	263	494	10,325
July 26	--	1	21	18	40	
27	--	1	14	34	49	
28	--	--	9	33	42	
29	--	--	8	32	40	
30	--	--	24	37	61	
31	--	--	8	21	29	
Total	--	2	84	175	261	10,586
Total Through July 31	5,179	3,273	980	1,154	10,586	

* Denotes peak day.

/1. Yuma County, Arizona. Shipments not shown separately in 1936.

Source of data: U. S. Dept. Agr., Bur. Agr. Econ., Official Records.

Table V

Daily Carlot Shipments of Cantaloupes and Related Melons: Cantaloupes From Imperial County, California, Cantaloupes and Related Melons from Yuma County, Arizona, Other California and Other Arizona Points and Other States, and Related Melons from Imperial County, with United States Total
May 11 to August 7, 1937

Date 1937	Cantaloupes			Cantaloupes and Related Melons					Related Melons Imperial County California			Cantaloupes and Related Melons United States Total		
	Imperial County California	Yuma Arizona /1	Sub-Total /1	Other California	Other Arizona	Other States	cars							
	1	2	3	4	5	6		7	8	9				
May 11	1	--	1	--	--	--	--	--	1					
12	1	--	1	--	--	--	--	--	1					
13	1	--	1	--	--	--	--	--	1					
14	3	--	3	--	--	--	--	--	3					
15	5	--	5	--	--	--	--	--	5					
Total	11	--	11	--	--	--	--	--	11					11
May 16	9	--	9	--	--	--	--	1	10					
17	13	--	13	--	--	--	--	--	13					
18	22	--	22	--	--	--	--	--	22					
19	19	--	19	--	--	--	--	1	20					
20	23	--	23	--	--	--	--	1	24					
21	16	--	16	--	--	--	--	2	18					
22	21	--	21	--	--	--	--	1	22					
Total	123	--	123	--	--	--	--	6	129					140
May 23	17	--	17	--	--	--	--	3	20					
24	18	--	18	--	--	--	--	2	20					
25	21	--	21	--	--	--	--	3	24					
26	23	--	23	--	--	--	--	3	26					
27	25	--	25	--	--	--	--	4	29					
28	47	--	47	--	--	--	--	3	50					
29	66	--	66	--	--	--	--	5	71					
Total	217	--	217	--	--	--	--	23	240					380

(Continued)

Table V

Daily Carlot Shipments of Cantaloupes and Related Melons: Cantaloupes from Imperial County, California, Cantaloupes and Related Melons from Yuma County, Arizona, Other California and Other Arizona Points and Other States, and Related Melons from Imperial County, with United States Total
May 11 to August 7, 1937 (Cont'd)

Date 1937	Cantaloupes			Cantaloupes and Related Melons					Related Melons		Cantaloupes and Related Melons		
	Imperial County California	Yuma Arizona /1	Sub-Total /1	Other California	Other Arizona	Other States	Other States	Imperial County California	United States Total	Cumulated U. S. Total			
	1	2	3	4	5	6	7	8	9				
May 30	58	--	58	--	--	--	6	64					
31	75	--	75	--	--	5	7	87					
June 1	91	--	91	--	--	9	10	110					
2	103	--	103	--	--	10	9	122					
3	133	--	133	--	--	12	9	154					
4	166	--	166	--	--	11	15	192					
5	217	--	217	1	--	7	19	244					
Total	843	--	843	1	--	54	75	973		1,353			
June 6	241	--	241	--	--	2	15	258					
7	262	1	263	--	--	7	10	280					
8	267	1	268	--	--	14	17	299					
9	274	3	277	1	--	11	18	307					
10	257	6	263	--	--	11	21	295					
11	241	7	248	--	--	10	22	280					
12	232	11	243	1	--	5	28	277					
Total	1,774	29	1,803	2	--	60	131	1,996		3,349			
June 13	224	15	239	--	--	4	26	269					
14	264	16	280	--	--	7	32	319					
15	265	24	289	1	--	4	38	332					
16	267	20	287	1	--	2	44	334					
17	304	25	329	2	--	2	65	398					
18	313	31	344	2	--	2	61	409					
19	324*	32	356	2	--	4	66	428					
Total	1,961	163	2,124	8	--	25	332	2,489		5,838			

(Continued)

Table V

Daily Carlot Shipments of Cantaloupes and Related Melons: Cantaloupes from Imperial County, California, Cantaloupes and Related Melons from Yuma County, Arizona, Other California and Other Arizona Points and Other States, and Related Melons from Imperial County, with United States Total
May 11 to August 7, 1937 (Cont'd)

Date 1937	Cantaloupes and Related Melons					Other States	Related Melons Imperial County California	Cantaloupes and Related Melons		
	Cantaloupes			Sub-total /1	Other California			Other Arizona	United States Total	Cumulated U. S. Total
	Imperial County California	Yuma Arizona /1	1							
	1	2	3	4	5	6	7	8	9	
June 20	260	34	294	2	cars-	1	64	361		
21	260	38	304	2	--	--	81	387		
22	218	43	261	4	2	2	106	375		
23	236	45	281	1	2	--	109	393		
24	279	52	331	9	2	--	116	458		
25	316	50	366*	7	2	4	128	507*		
26	303	54	357	15	3	10	112	497		
Total	1,878	316	2,194	40	11	17	716	2,978	8,816	
June 27	273	61	334	13	3	--	130	480		
28	276	55	331	7	4	9	113	464		
29	224	65*	289	20	6	22	127	464		
30	176	45	221	7	16	18	137	399		
July 1	142	37	179	8	23	17	147	374		
2	125	24	149	14	36	17	147	363		
3	105	22	127	16	38	39	130	350		
Total	1,321	309	1,630	85	126	122	931	2,894	11,710	
July 4	64	10	74	10	37	5	112	238		
5	51	14	65	13	66	16	153	313		
6	33	13	46	12	76	33	178	345		
7	20	11	31	9	85	41	197	363		
8	15	6	21	8	72	43	222*	366		
9	15	9	24	9	112	44	182	371		
10	17	11	28	7	105	50*	136	326		
Total	215	74	289	68	553	232	1,180	2,322	14,032	

(Continued)

Table v

Daily Carlot Shipments of Cantaloupes and Related Melons: Cantaloupes from Imperial County, California, Cantaloupes and Related Melons from Yuma County, Arizona, Other California and Other Arizona Points and Other States, and Related Melons from Imperial County, with United States Total

May 11 to August 7, 1937 (Cont'd)

[illegible]

(Continued)

Table V

Daily Carlot Shipments of Cantaloupes and Related Melons: Cantaloupes from Imperial County, California, Cantaloupes and Related Melons from Yuma County, Arizona, Other California and Other Arizona Points and Other States, and Related Melons from Imperial County, with United States Total
May 11 to August 7, 1937 (Cont'd)

Date		Cantaloupes and Related Melons				Related		Cantaloupes and	
1937		Imperial	Yuma	Sub-Total	Other	Other	Other	Imperial	United
		County	Arizona	/1	California	Arizona	States	County	States
		California	/1	/1	California	California	California	California	California
		1	2	3	4	5	6	7	8
		cars							
		-							
Total Through	July 31	8,407	970	9,377	765	1,893	1,178	4,965	18,178
Aug.	1	--	--	--	15	3	20	7	45
	2	--	--	--	15	11	25	9	60
	3	--	--	--	21	9	31	6	67
	4	--	--	--	18	21	26	3	68
	5	--	--	--	30	20	18	4	72
	6	--	--	--	33	18	19	4	74
	7	--	--	--	29	19	26	4	78
Total		--	--	--	161	101	165	37	464
Total Through	Aug. 7	8,407	970	9,377	926	1,994	1,343	5,002	18,642

* Denotes peak day.
/1. Shipments from Yuma County are almost entirely cantaloupes.
Source of data: U. S. Dept. Agr., Bur. Agr. Econ., Official Records.

Table VI

Annual Carlot Shipments of Cantaloupes and Related Melons by Areas

1926-1937

Year	Imperial Valley	Arizona	Other Calif.	Other States	United States Total	Imperial Valley & Ariz. in Per cent of U. S. Total
	1 cars	2 cars	3 cars	4 cars	5 cars	6 per cent
1926	14,038	3,712	4,282	11,392	33,424	53.1
1927	18,121	5,217	4,284	9,135	36,757	63.5
1928	18,819	5,901	6,488	7,486	38,694	63.9
1929	20,307	5,457	6,543	7,735	40,042	64.3
1930	18,171	5,834	5,455	6,719	36,179	66.4
1931	21,731	4,542	3,976	6,333	36,582	71.8
1932	13,514	3,109	3,755	5,944	26,322	63.2
1933	10,481	1,922	2,121	4,630	19,154	64.8
1934	11,171	2,468	2,677	2,984	19,300	70.7
1935	9,843	3,022	2,830	4,481	20,176	63.7
1936	9,970	3,425	2,458	4,234	20,087	66.7
1937	13,613	3,299	2,535	4,121	23,568	71.8

Source of data: U. S. Dept. Agr., Bur. Agr. Econ., "Carlot Shipments of Fruits and Vegetables", calendar years, 1926-1937.

Table VII shows destinations of cars shipped from the Valley and Arizona by states for the bulk of the 1937 season.

Available records indicate that approximately 1,300 carloads of cantaloupes and related melons were shipped by motor truck to Los Angeles from the Imperial Valley, but because of the isolation of the producing area from other large markets, it is not likely that any considerable volume moved by motor truck in interstate commerce.

Purchasing Power Parity Prices

There are no adequate statistics at hand in the Department of Agriculture relating to prices received in 1910-14 by growers of cantaloupes in the area covered by the proposed marketing agreement. Therefore, in accordance with the provisions of the Agricultural Marketing Agreement Act of 1937, as amended, farm prices falling within the post-war base period, August, 1919, through July, 1929, were used in computing purchasing power parity prices. These seasons include the ten crops harvested from 1920 through 1929. The computations so made are subject to three qualifications: first, official farm price statistics, as reported by the Bureau of Agricultural Economics, do not differentiate between cantaloupes and other melons, but include all varieties of muskmelons; second, price data for Yuma County, Arizona, are not reported separately from Maricopa and Pinal Counties, a summary report being issued each season for the state of Arizona as a whole; and third, approximately five per cent of the shipments from Imperial and Yuma Counties in 1929 occurred in August. It does not appear, however, that the purchasing power parity price for the current season would differ significantly if it were possible to make the adjustments necessary to refine the computations to include only farm prices of

Table VII

Carlota Distribution of Cantaloupes and Related Melons Shipped
from Arizona and Imperial County, California,
1937 Season /1

Ship- ments to	From			Ship- ments to	From		
	Arizona	Imperial County	Total		Arizona	Imperial County	Total
	1	2	3		1	2	3
-- Cars --				-- Cars --			
Alabama	---	13	13	New Mexico	---	1	1
Arizona	---	3	3	New York	272	3,189	3,461
Arkansas	---	7	7	North Carolina	---	14	14
California	3	248	251	North Dakota	4	12	16
Colorado	50	134	184	Ohio	178	761	939
Connecticut	14	177	191	Oklahoma	---	28	28
Dist. of Co.	10	125	135	Oregon	---	124	124
Florida	2	29	31	Pennsylvania	180	1,495	1,675
Georgia	---	21	21	Rhode Island	4	68	72
Idaho	---	30	30	South Carolina	---	1	1
Illinois	268	1,303	1,571	South Dakota	5	18	23
Indiana	11	87	98	Tennessee	2	56	58
Iowa	33	146	179	Texas	3	79	82
Kansas	17	63	80	Utah	---	38	38
Kentucky	7	52	59	Vermont	1	9	10
Louisiana	5	79	84	Virginia	---	28	28
Maine	11	17	28	Washington	1	199	200
Maryland	9	187	196	West Virginia	5	46	51
Mass.	98	599	697	Wisconsin	42	118	160
Michigan	102	588	690	Wyoming	---	12	12
Minnesota	57	159	216	Total United States	1,580	11,270	12,850
Missouri	148	630	778	Canada	166	458	624
Montana	---	61	61	Grand Total	1,746	11,728	13,474/1
Nebraska	30	103	133	Ariz. & Calif.			
Nevada	---	5	5	in per cent of	0.2	2.1	1.9
New Jersey	8	108	116	Total			

/1. Reports of distribution ceased before all cars had been shipped.

Source of data: Col. 1; U. S. Dept. Agr., Bur. Agr. Econ., Arizona Fruit and Vegetable Standardization Service cooperating. Federal-State Market News, "Review 1937 Marketing Season Arizona Cantaloupes", July 22, 1937.

Col. 2; U. S. Dept. Agr., Bur. Agr. Econ., California Dept. Agr. cooperating. Federal-State Market News Service, "Review of the 1937 Imperial Valley Cantaloupe Season", July 17, 1937.

cantaloupes grown in Imperial and Yuma Counties during the base period defined by the Act.

The weighted average farm price series used in computing purchasing power parity was constructed by multiplying the season average farm price in each area by the harvested production of melons in that area, adding the products and dividing by the combined total harvested production.

Weighted average prices received by growers have been below parity, in comparison with prices paid by farmers for commodities used in living and production, in each year since the expiration of the base period. Prices received have ranged between 73.3 per cent of parity prices in 1930 and 98.6 per cent of parity in 1934, averaging 85.0 per cent of parity for the past eight seasons. Present indications are that the 1938 parity price will be approximately \$1.43 per crate to growers. A comparison of actual prices and parity prices is shown in table VIII.

Varietal Distribution

Percentages of total acreage in Imperial County planted to different varieties of cantaloupes and other melons in recent years are shown in table IX. Resistant strains have recently completely replaced other varieties of cantaloupes, and cut heavily into Honey Dew and Honey Ball acreage in 1938. This is the first season since 1927 that these two varieties have amounted to less than 20 per cent of total plantings, and in terms of actual acreage it is the smallest since 1926.

The Resistant No. 45 strain has apparently solved three major problems of production and marketing, but has presented another marketing problem. The strain is long bearing and apparently fairly high yielding. It

Table VIII

Purchasing Power Parity Prices of Cantaloupes and Related Melons/1
Produced in Imperial County, California, and Arizona
In Terms of Dollars per Standard Crate

Season/2	: Farm : Price/3	: Index : of Prices : Paid by : Farmers/4	: Parity : Price	: Actual Price : Above (+) or : Below (-) : Parity	: Actual : Price : in Per cent : of Parity
	1 dollars	2 per cent	3 dollars	4 dollars	5 per cent
Aver. 1920-1929	1.82	100.0	1.82	--	100.0
1930	1.21	90.6	1.65	- .44	73.3
1931	1.09	77.5	1.41	- .32	77.3
1932	1.00	66.9	1.22	- .22	82.0
1933	1.04	68.1	1.24	- .20	83.9
1934	1.39	76.9	1.40	- .02	98.6
1935	1.18	78.1	1.42	- .24	83.1
1936	1.34	77.5	1.41	- .07	95.0
1937	1.29	81.2	1.48	- .19	87.2
1938		78.8	1.43		

- /1. Includes Honeyball, Honeydew, Casaba, and Persian melons, not reported separately.
- /2. Season for farm prices, mainly May through July; season for Index of Prices Paid by Farmers, August through July.
- /3. Weighted average farm price for Imperial County, California, and Arizona, the season average farm price in each area being weighted by harvested production.
- /4. August 1919-July 1929 = 100 per cent.

Source of data: U. S. Dept. Agr., Bur. Agr. Econ.:

- Col. 1 - Crop Reporting Board, Commercial Truck Crops for Shipment, Cantaloupes, for Market; 1920-1927, mimeographed report, Sept. 29, 1931; 1928-1935, mimeographed report, TC-36:1219, Dec. 18, 1936; 1936-1937, Truck Crop Report, TC-37:1218, Dec. 17, 1937.
- Col. 2 - Div. of Statistical and Historical Research.
- Col. 3 - Average price, 1920-1929, multiplied by col. 2.
- Col. 4 - Col. 1 minus col. 3.
- Col. 5 - Col. 1 expressed as a percentage of col. 3.

Table IX

Percentage Distribution of Acreage by Varieties of Cantaloupes
and Related Melons Grown in Imperial County,
California, 1926-1938

	Resis- tants	Per- fectos	Hales Best	Pollocks	Honey Dews	Honey Balls	Others	Total
	1	2	3	4	5	6	7	8
- - per cent. - -								
1926	0	4	47	33	9	2	5	100
1927	0	23	34	25	9	5	4	100
1928	0	18	46	9	13	10	4	100
1929	0	24	45	4	14	12	1	100
1930	0	11	59	1	15	14	0	100
1931	0	16	52	1	17	14	0	100
1932	0	22	46	0	19	13	0	100
1933	0	10	54	0	16	17	3	100
1934	9	13	54	0	14	9	1	100
1935	56	9	2	0	20	13	0	100
1936	52	13	0	0	23	12	0	100
1937	68	0	0	0	22	10	0	100
1938/1	82	0	0	0	12	6	0	100

/1. Preliminary.

Source of data: 1926-1937, U. S. Dept. Agr., Bur. Agr. Econ., Market News Service, and Calif. Dept. Agr., Market News Service, Cooperating, "Review of the 1937 Imperial Valley Cantaloupe Season", by A. E. Prugh and W. R. Goodwin, Brawley, Calif., July 17, 1937.

1938, Computed from U. S. Dept. Agr., Bur. Agr. Econ., Commercial Truck Crops for Shipment, Cantaloups (Including Miscellaneous Melons) TC-38:318, March 22, 1938.

is very resistant to mildew, and mature melons are firm and well flavored. Finally, melons can be picked fully ripe and shipped to the East Coast, arriving in excellent condition. The strain, however, has a tendency to produce large cantaloupes which are considered less desirable by the distributing trade and consequently sell at discounts. It is possible that in future seasons there may be a shift in demand toward the larger sizes which can be sliced into thirds or quarters, instead of the usual halves for serving, but at present the high proportion of large sizes is an economic disadvantage.

Size Affects Price and Returns to Growers

Table X shows comparative price ranges by sizes for California cantaloupes on the New York wholesale market on specified days in the 1937 season. With the factors of color of flesh, quality, and condition approximately constant, the price differentials there shown can be ascribed to trade preference for certain sizes. Pony crates, containing 45 or 54 melons, consistently sold at discounts under standard crates containing 45 melons, and under Jumbo crates containing 45 or 36 melons. Jumbo 27's sold at approximately the same prices as pony crates. In the middle of the season, after the period of very high prices and wide differentials when melons first reached the market, these discounts often were as much as \$1.25 per crate. Similar price spreads are shown for Arizona cantaloupes in table XI.

This preference for medium sizes is not peculiar to cantaloupes on the New York market. While there are variations in particular preferences from market to market and from period to period within seasons, similar premiums on medium sizes and discounts on large and small sizes are well-known

Table X

New York Wholesale Market Prices of California Cantaloupes, Salmon Meats, Good Merchantable Quality
On Tuesdays and Fridays in May, June, and July, 1937

Date 1937	Jumbo Crates			Standard Crates			Pony Crates 45's-54's
	27's	36's	45's	45's	45's	45's	
	1	2	3	4	5	5	
		-- -- dollars per crate -- --					
May 18	--	8.00	--	6.50-7.00	5.00-5.50	5.00-5.50	
21	--	7.25-7.50	7.25-7.50	6.25-6.50	4.75-5.00	4.75-5.00	
25	--	7.75-8.00	7.75-8.00	6.75-7.00	5.25-5.50	5.25-5.50	
28	--	5.50-6.60	5.50-6.50	5.25-6.00	4.50-5.00	4.50-5.00	
June 1	--	4.75-5.25	5.00-5.50	4.50-5.25	4.00-4.50	4.00-4.50	
4	--	6.00-6.25	6.25-6.50	5.50-6.00	4.50-5.00	4.50-5.00	
8	--	4.25-4.75	4.75-5.00	4.25-4.75	3.75-4.00	3.75-4.00	
11	3.50-4.00	4.25-4.50	4.75-5.00	4.25-4.50	3.75-4.00	3.75-4.00	
15	2.50-3.00	2.50-3.00	2.50-3.75	2.50-3.25	2.00-2.75	2.00-2.75	
18	2.50-3.00	3.00-3.25	3.50-3.75	3.00-3.25	2.50-2.75	2.50-2.75	
22	2.50-2.75	3.00-3.25	3.50-3.75	3.00-3.25	2.50-2.75	2.50-2.75	
25	2.75-3.00	3.37-1/2-3.75	4.00-4.25	3.50	2.75-3.00	2.75-3.00	
29	2.50-2.75	3.00-3.25	3.75-4.00	3.25-3.50	2.75-3.00	2.75-3.00	
July 2	2.25-2.75	2.75-3.25	3.00-3.75	2.75-3.25	2.25-2.50	2.25-2.50	
6	2.50-3.00	2.50-3.25	3.00-3.75	3.25	2.25	2.25	
9	2.50-2.75	3.00-3.50	3.25-3.75	--	--	--	
13	3.00-3.50	3.50-4.00	3.50-4.00	3.25	2.50	2.50	
16	3.00-3.50	3.75-4.00	3.75-4.00	--	3.00	3.00	
20	3.25	3.75	4.00	--	--	--	
23	--	2.25-2.50	2.25-2.50	--	--	--	
27	--	4.00	4.00	--	--	--	
30	2.25-2.50	2.75-3.00	2.75-3.00	--	--	--	

Source of data: U. S. Dept. Agr., Bur. Agr. Econ., Div. Fruits and Vegetables, Market News Service, New York. Miscellaneous Fruit and Vegetable Reports, daily issues, 1937.

Table XI

New York Wholesale Market Prices of Arizona Cantaloupes
 Salmon Meats, Good Merchantable Quality and Condition
 Tuesdays and Fridays in June, July, and August 1937

Date 1937	Jumbo Crates				Standard Crates	
	23's	27's	30's	45's	45's	
	1 dollars	2 dollars	3 dollars	4 dollars	5 dollars	
June 25		3.00				
29		2.75	3.25	4.00	3.50	
July 2		2.50-2.75	3.00-3.25	3.00	3.00-3.25	
6		2.62-1/2-2.87-1/2	3.00-3.25	3.50-3.75	3.25	
9		2.75	3.00-3.25	3.25-3.50	2.75-3.00	
13			3.50-3.75	3.50-3.75	3.00-3.25	
16			3.25-3.50	3.50-3.75	3.25	
20			2.75-3.50	3.25-4.00	3.25	
23			2.00-2.25	2.25-2.75	1.75-2.00	
27	2.00	1.75-2.25	2.25-2.50	2.25-2.50	2.00	
30		1.50-2.00	1.50-2.00	1.50-2.00		
Aug. 3		2.00-2.50	2.25-2.50	1.75-2.25		
6		1.75-2.00	2.00-2.25	2.00-2.25		

Source of data: U. S. Dept. Agr., Bur. Agr. Econ., Div. Fruits & Vegetables - Market News Service
 New York Miscellaneous Fruit & Vegetable Reports - daily issues, 1937.

in marketing lettuce, celery, cauliflower, onions, citrus, plums, and many other fruits and vegetables which are packed in standard-sized containers and sold by count. There are usually specific preferences for large and small sizes in small quantities, which may lead to premium prices, but these channels may easily be overloaded, with the result that premiums are quickly changed to substantial discounts.

Shipping less desirable sizes of cantaloupes to distant markets during hot weather results in losses to growers and shippers in two ways. First, there is the obvious loss, commonly called "red ink", when the sale price at terminal markets is insufficient to cover actual costs of harvesting, packing, freight, refrigeration, and selling commissions. In the Imperial Valley in 1937, average cost of harvesting and packing melons in the field was estimated to be 65 cents per crate. Freight and standard refrigeration on Jumbo crates to New York was \$1.76, on standard crates \$1.53, and on pony crates \$1.38. Selling commission was 15 per cent. Thus, sales of Imperial Valley Jumbo packs in New York at \$2.75 or below represented, on the average, a slight cash loss from the time the melons were picked, without considering production cost. A price of \$2.25 per crate on pony packs and \$2.50 on standard crates would also represent a direct loss to the average grower and shipper. It should be noted that the quotations shown for the New York market do not include prices for poor quality or damaged cantaloupes, which had to be sold at much greater discounts than merely the less desirable sizes of good melons.

The second, and less obvious, loss caused by shipping large or small-sized melons lies in the fact that these melons add to the total

supply available for sale, and thereby tend to reduce the general level of prices for all melons. Given the same consumer income, constant supplies of competing produce, and comparable weather conditions, it is to be expected that a large supply of cantaloupes will sell at a lower price per crate than would a smaller supply of the same quality. If the supply is reduced by the elimination of the discount sizes, the price level will go up, and there will be fewer "red-ink" account sales to set off against profitable prices. Pack distribution melon sizes for 1937 is given in table XII.

Factors Affecting Price

A preliminary technical price analysis of the factors affecting farm prices of cantaloupes and related melons produced in Imperial County and Arizona indicates that the major price-making forces are supply, as measured by harvested production, and consumer income, measured by the average index of non-agricultural income for the months May, June, and July. These factors are shown in table XIII.

The price-supply relationship, with consumer income in 1938 estimated to be equivalent to that of 1936, indicates a slightly elastic supply-price curve, that is, gross income increases as harvested production increases. The farm price series used in the analysis, however, represents the season average price received by growers for harvested and packed melons, rather than the price for melons on the vine. In the 1937 season, the average cash cost to the grower for harvesting and field packing, including the cost of the shipping crate, was estimated to be approximately 65 cents per crate. When this amount is deducted from the estimated farm price schedule under demand conditions expected to prevail in 1938 and at various

Table XII

Pack Distribution of Cantaloupes Shipped
from the Imperial Valley in 1937
(In Terms of Percentages)

Crate and Melon Size	Per cent
Jumbo 27	19
Jumbo 36	45
Jumbo 45	26
Standard	5
Pony	3
Flats	1
Irregular	1
TOTAL	100

Source of data: Special Survey made by W. B. Studt,
Economic Analysis Unit, General Crops
Section, A.A.A., Field Office, San
Francisco, California

Table XIII

Cantaloupes and Related Melons Produced in Arizona
and Imperial County, California, Farm Price
and Factors Affecting Farm Price,
1932-1937

Year	Farm Price /1	Harvested Production	Non-Agricultural Income Index/2
	1	2	3
	dols. per crate	1,000 crates	per cent
1932	1.00	5,852/3	66.4
1933	1.04	4,415/3	61.4
1934	1.38	5,319	72.0
1935	1.18	4,689/3	75.7
1936	1.34	4,943/3	85.3
1937	1.29	6,512	97.1
1938	--	--	85.3/4

- /1. Weighted average farm price for Imperial County, California, and Arizona, the season average farm price in each area being weighted by harvested production.
/2. 1924-29 equals 100 per cent, average of May, June, and July.
/3. Season in which substantial quantities were not harvested on account of marketing conditions.
/4. 1938 index estimated to be equivalent to 1936.

Source of data: Col. 1 & 2; U. S. Dept. Agr., Bur. Agr. Econ., Crop Reporting Board, Commercial Truck Crops for Shipment, Cantaloupes for Market; 1930-1935, mimeographed report, TC-36:1219, December 18, 1936.
1936-1937, Truck crop report, TC-37:1218, December 17, 1937.

Col. 3; U. S. Dept. Agr., Agr. Adj. Admin., Program Planning Division, "Monthly Indexes of Non-Agricultural and National Income".

production levels, it will be seen from table XIV that the actual net return to growers for melons on the vine increases as the harvested production decreases, reaching a maximum point at about 4,800,000 crates for the two areas combined.

This analysis is based upon the assumptions that the seasonal shipping pattern and annual size distribution of melons shipped has been relatively constant. It should not be considered to indicate that shipments should cease abruptly when 4,800,000 crates have been harvested and shipped. Rather, shipments should be restricted when supplies become large enough to depress prices unduly in the terminal markets. Days of excessive shipments should be prevented. The most desirable method of controlling shipments would be to eliminate the off-grade and discount sizes.

Additional Detailed Data

The purpose of the foregoing statement has been to present, in summarized form, basic economic forces operating in the marketing of cantaloupes and related melons. Much additional material relating to the cantaloupe industry may be found in the sources cited in the tables included and in the attached bibliography.

Table XIV

Cantaloupes and Related Melons Produced in Arizona
and Imperial County, California,
Estimated Farm Price/1, Total Value on Farms, and
Net Estimated Farm Price and Value/2

Harvested Production	Estimated Farm Price/ <u>1</u> 1938 Level	Total Value on Farm <u>/3</u>	Net Esti- mated Farm Price/ <u>2</u> at 1938 Demand Level	Net Total Value <u>/2 /3</u>
1	2	3	4	5
1,000 crates	dollars per crate	thousand dollars	dollars per crate	thousand dollars
4,400	1.41	6,204	.76	3,344
4,600	1.38	6,348	.73	3,358
4,800	1.35	6,480	.70	3,360
5,000	1.32	6,600	.67	3,350
5,200	1.29	6,708	.64	3,328
5,400	1.26	6,804	.61	3,294
5,600	1.23	6,888	.58	3,248
5,800	1.20	6,960	.55	3,190
6,000	1.17	7,020	.52	3,120
6,200	1.14	7,068	.49	3,038
6,400	1.11	7,104	.46	2,944
6,600	1.08	7,128	.43	2,838
6,800	1.05	7,140	.40	2,720

- /1. Estimated from primary regression of graphic multiple correlation, prepared by the Economic Analysis Unit of the General Crops Section, Agr. Adj. Admin., based on data in Table XIII.
- /2. Net price and value determined by deducting 65 cents from estimated farm price as representing cost of harvesting, hauling, packing, and crate for a field pack.
- /3. Cols. 3 and 5; derived by multiplying Col. 1 by cols. 2 and 4, respectively.

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